WE CLAIM

1. A method for determining whether a compound from a sample has predetermined characteristics, said method comprising:

a. obtaining a biological material in a first solution or suspension;

b. maintaining a continuous flow of a supportive solution through the first solution or suspension;

c. adding the sample to the continuous flow of the supportive solution;

d. providing suitable conditions for the interaction of the biological material in the first solution or suspension with the compound in the sample;

e. washing the results of the interaction between the biological material in the first solution and the compound in the sample through an ultrafiltration membrane to form a second solution; and

f. analyzing the second solution to determine whether the compound in the sample has the predetermined characteristics.

2. The method of claim 1, wherein the biological material is selected from a group consisting of a protein, a peptide, an oligonucleotide, an oligosaccharide, a microsome, a cell, a tissue, an enzyme, a receptor, DNA and RNA.

3. The method of claim 1, wherein the compound is selected from the group consisting of a natural product, a combinatorial library, a drug, a drug mixture, a xenobiotic compound, a mixture of xenobiotic compounds, an endogenous compound, and a mixture of endogenous compounds.

4. The method of claim 1, wherein the supportive solution is selected from a group consisting of a buffer, a nutrient medium, or a combination thereof, said supportive solution capable of maintaining the biological material in a state wherein the biological material can interact with a compound in the sample.

5. The method of claim 1, wherein the continuous flow facilitates the interaction of the biological material with the sample in the first solution or suspension and facilitates the removal of compounds from the sample and their metabolites by washing them through the ultrafiltration chamber into the second solution.

6. The method of claim 1, wherein the predetermined characteristics consist of functioning as a substrate for an enzyme, showing desirable rates of enzymatic catalysis, showing desirable rates of cell permeability or transport, showing enzymatic activation to reactive or toxic metabolites.

7. The method of claim 1, wherein the sample is added to the continuous flow by means of injection.

8. The method of claim 1, wherein the suitable conditions for interaction of the biological material in the first solution with the compound in the sample comprises mixing the sample with the biological material to achieve a homogeneous distribution of sample, temperature control to maintain function of the biological material, adequate concentration of sample and sufficient amount of biological material to facilitate analysis, sufficient time for interaction, control of atmospheric gases (oxygen and carbon dioxide) to maintain function of the biological material.

9. The method of claim 1, wherein the ultrafiltration membrane has pore sizes that allow the sample molecules to pass through but not the biological material.

10. The method of claim 1, whereas the analyzing of the second solution is by mass spectrometry.

11. A kit for analyzing compounds in a sample, said kit comprising in separate containers, an ultrafiltration membrane, a first solution containing a biological material, a buffer, a test solution, and a set of standard solutions with predetermined characteristics.

add a3

add S1

add E2